



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,287	09/18/2006	Tokuyuki Nakayama	034145.004	8454
441 7590 10/15/2008 SMITH, GAMBRELL & RUSSELL 1130 CONNECTICUT AVENUE, N.W., SUITE 1130 WASHINGTON, DC 20036				
EXAMINER				
NELSON, MICHAEL B				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
10/15/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/593,287

Applicant(s)

NAKAYAMA ET AL.

Examiner

MICHAEL B. NELSON

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 09/18/06.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____.
- 5) ☐ Notice of Informal Patent Application.
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-22 and 24 in the reply filed on 08/11/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claim 23 is withdrawn from consideration as being directed to non-elected subject matter.

Examiner's Note

2. While machine translations of the prior art are used for the rejections in the current office action, library translations will be provided in the next office action.

Claim Objections

3. Claims 7, 12-16, 20-22 and 24 are objected to under 37 CFR 1.75(c) as being in improper form because of multiple dependent claim limitations. See MPEP § 608.01(n). The amendment filed on 09/18/06, which attempt to remedy this problem is **not acceptable** because it does not have the proper format for an amendment. See MPEP § 714 C, the amendments to the claims **"must include a complete listing of all claims ever presented"**. For the purposes of advancing prosecution the claims in question will be treated as through they had been amended in the way suggested by the amendment filed on 09/18/06 however a new filling of properly amended claims is necessitated in the reply to this office action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 recites a layered structure including a gas barrier film and describes the layered structure as having a resin film "into which a gas barrier film is inserted." This phrase is vague and indefinite in that it is unclear in what manner the gas barrier film interacts with the resin plate. From the specification it is believed that the gas barrier film is meant to lie in between the transparent conductive stack and the substrate (Fig. 2). If this is correct, it would be remedial to amend claim 16 to remove the limitations based on "insertion" and replace them with limitations directed towards the gas barrier film being "in between" the transparent conductive layers and the substrate.

6. Claims 3, 9, 16 and 17 are rejected under 112, second paragraph, as being vague and indefinite in that there is an improper Markush group format. According to MPEP § 2171.05(h), one acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925). For proper Markush group claim formatting, "such as" should be changed to "selected from the group consisting of." Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-5, 7-15, 19-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toppan Printing Co (JP 2000-106034), see machine translation in view of Naishi Minami (JP 09-259640), see machine translation.

Regarding claim 1, Toppan Printing Co. discloses a transparent conductive film ([0001]) with a transparent oxide film, a metallic film and another transparent oxide film coated onto a substrate ([0026]). As the materials for the transparent oxide film, gallium and indium are disclosed as being sputtered with oxygen to produce oxides ([0020]-[0021]).

Toppan Printing Co does not disclose the specific ratio of Gallium in the overall oxide layer. Naishi Minami discloses a transparent conductive film with a Gallium and Indium oxide

mix having a Gallium to Indium ratio of between 15 and 49% ([0004]). The film is disclosed as showing improved uniformity and high light transmittance ([0003]).

The inventions of both Toppan Printing Co and Naishi Minami are drawn to the field of transparent conductive films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the oxide layer of Toppan Printing Co by using the Gallium content as taught by Naishi Minami for the purposes of imparting improved uniformity and high light transmittance.

Regarding claims 2-5, 7-15, 19-22 and 24, modified Toppan Printing Co discloses all of the limitations as set forth above. Additionally, Toppan Printing Co discloses that there be a three layer structure ([0026]). The metal layer is disclosed as being an alloy of silver, copper and gold with ratios of 98.5%, 0.5% and 1.0% respectively ([0027]). The thickness of the metal layer is disclosed as being 13-15 nm ([0026]). The use in transparent electrodes is disclosed ([0001]).

Regarding the transmittance and surface resistance, while modified Toppan Printing Co does not explicitly disclose the instant claimed values, given the substantially similar composition (i.e. metallic film layer, oxide film layer, thicknesses and overall layered structure) of the invention of modified Toppan Printing Co with the instant application, one having ordinary skill in the art would expect the transparent conductive film to exhibit the claimed properties.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toppan Printing Co (JP 2000-106034), see machine translation, in view of Naishi Minami (JP 09-259640), see

machine translation, as applied to claim 3 above, and further in view of Asahi Glass Co. (JP 09-291356), see machine translation.

Regarding claim 6, modified Toppan Printing Co discloses all of the limitations as set forth above. Toppan Printing Co does not explicitly disclose that the metallic film be a Ni and Au laminate. Asahi Glass Co discloses a transparent conductive film with a metallic laminate of Au and Ni ([0029]-[0032]). The film of Asahi Glass Co is disclosed as being excellent in, inter alia, alkali resistance ([0009]).

The inventions of both modified Toppan Printing Co and Asahi Glass Co are drawn to the field of transparent conductive films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the metallic layer of modified Toppan Printing Co by using the metallic Ni, Au laminate of Asahi Glass Co for the purposes of imparting improved alkali resistance.

12. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toppan Printing Co (JP 2000-106034), see machine translation, in view of Naishi Minami (JP 09-259640), see machine translation, as applied to claim 1 above, and further in view of Nippon Hosokawa Kasei (JP 2004-127719), see English language equivalent Fujikake et al. (U.S. 2006/0152136).

Regarding claims 16-18, modified Toppan Printing Co discloses all of the limitations as set forth above. Modified Toppan Printing Co does not disclose the inclusion of a gas barrier film with the transparent conductive film. Fujikake et al. discloses a transparent conductive film on which it was known to use substrates made of, inter alia, polycarbonate ([0003]). The gas barrier layer is disclosed as being made of inter alia, silicon oxide ([0041]) and the placement of

the gas barrier film, 2, within the structure of the stack in Fig. 1 shows that it is in between the transparent conductive layer, 1, and the resin base, 3 ([0049]). The film of Fujikake et al. is disclosed as exhibiting improved heat resistance and low moisture absorbance ([0013]).

The inventions of both modified Toppan Printing Co and Fujikake et al. are drawn to the field of transparent conductive films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the transparent conductive film of modified Toppan Printing Co by including a gas barrier layer as taught by Fujikake et al. for the purposes of imparting improved heat resistance and lowered moisture absorbance.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL B. NELSON whose telephone number is (571) 270-3877. The examiner can normally be reached on Monday through Thursday 6AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MN/
09/23/08

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794